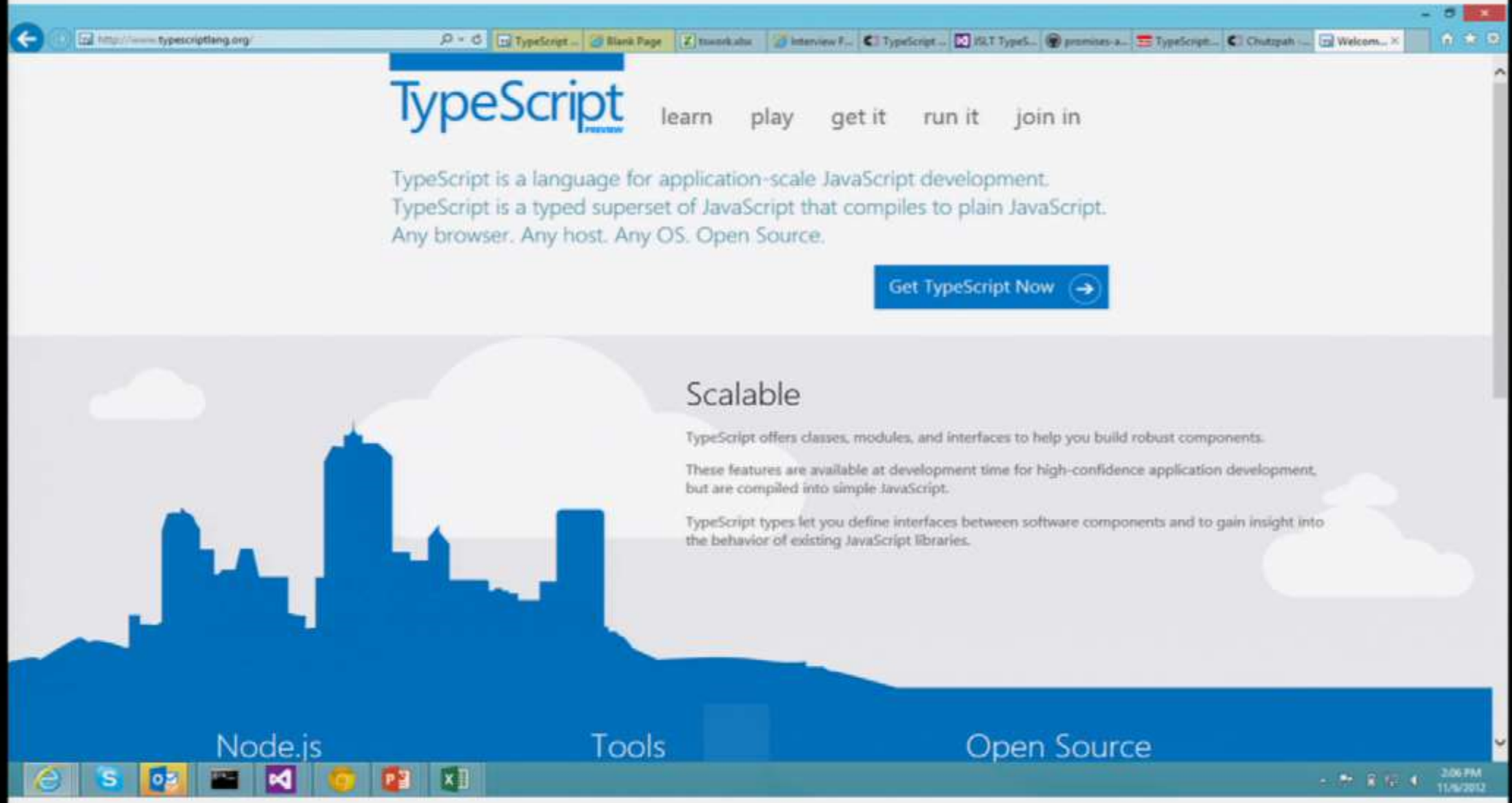
TypeScript Meetup

10 min	Around the room introductions
5 min	Opening comments by Anders Hejlsberg
20 min	TypeScript update by Luke Hoban
5 min+	TypeScript Q&A session with Luke, Anders, and Team
5 min	TouchDevelop demo by Michal Moskal
5 min	Socl demo by Todd Newman & Dan Marshall
5 min	JSLink demo by Randy Dodgen
15 min	Monaco demo by Chris Dias
50 min	Eat, drink, and talk about TypeScript

Contact: stevenic

TypeScript

The Release


http://www.typescriptlang.org/
TypeScript
Blank Page
Welcom...
TypeScript
learn
play
get it
run it
join in
TypeScript is a language for application-scale JavaScript development.
TypeScript is a typed superset of JavaScript that compiles to plain JavaScript.
Any browser. Any host. Any OS. Open Source.
Get TypeScript Now
Scalable
TypeScript offers classes, modules, and interfaces to help you build robust components.
These features are available at development time for high-confidence application development, but are compiled into simple JavaScript.
TypeScript types let you define interfaces between software components and to gain insight into the behavior of existing JavaScript libraries.
Node.js
Tools
Open Source

Launch Assets

TypeScript

CodePlex

Assets	Goal
TypeScriptLang.org	Links to source. Monaco based playground. Download VS2012 Add-In or NPM install (& support in alt. IDEs)
TypeScript.CodePlex	Open Source downloads; roadmap
Channel 9 Video	Product overview by Anders
Soma Blog	Leadership story
IE Blog	Progress in ECMAScript community
Port 25 Blog	Open Source positioning

Awareness + Mindshare

Website visits: **340019**
Playground visits: **132180**
Channel9 views: **343408** (25th most watched ever)
All JS thought leaders weighed in (neutral to positive)
Twitter sentiment ~75% positive

33% non-Windows visitors to typescriptlang.org

(compare 12% for windowsazure.com)

Microsoft's **TypeScript may be the best of the many JavaScript front ends.** It seems to generate the **most attractive code.**

- Douglas Crockford

Clever, elegant , simple and compatible. Well done!

- Chrome team member

Ecosystem + Engagement

Forum posts: 1096
Stackoverflow questions: 281
Feature requests: 97
Tooling building on open-source TypeScript compiler
48 forks on CodePlex, 8 pull requests

TypeScript plugins to various server/build process:

Ruby, grunt, ASP.NET, node, compile-in-client, (+ more).

70 .d.ts library typings developed by library vendors and users.

Includes coverage of ~90% of top 20 JS libraries.

Support in Cloud9 two days after release

2nd ranked feature request for IntelliJ IDEA

Adoption

Windows Installer Downloads (VS2012): **21727**
NPM Downloads (x-plat): **5655**
CodePlex Downloads (source): **3242**
Top followed project on CodePlex

We ship every day, so it's extremely useful to have type checking. This finds bugs right away. I think it actually helps our agility.

- Kiran Badam, Bing

~ 500k LOC internal projects using TypeScript

Getting a demo from some Microsoft guys. TypeScript is epically good. **I plan to consider using it for all my browser and node JS.**

- Thomas Aylot, Facebook

Roadmap

v0.8.x – October 2012 – Awareness + Mindshare

Address critical release feedback

Debugging and Windows 8 support

v0.9.x – Spring 2013 – Ecosystem + Engagement

Language support for rich library typings

Tools scalability (support 100k+ LOC codebases well)

v1.0.x – Fall 2013 – Adoption

Align with ECMAScript standards

VS Blue alignment

Blue Wave

Monaco/TypeScript to drive node.js on Azure & VSOnline

M9 Drop (v0.8.1)

Next week

Address top external feedback
Source map support

Demo

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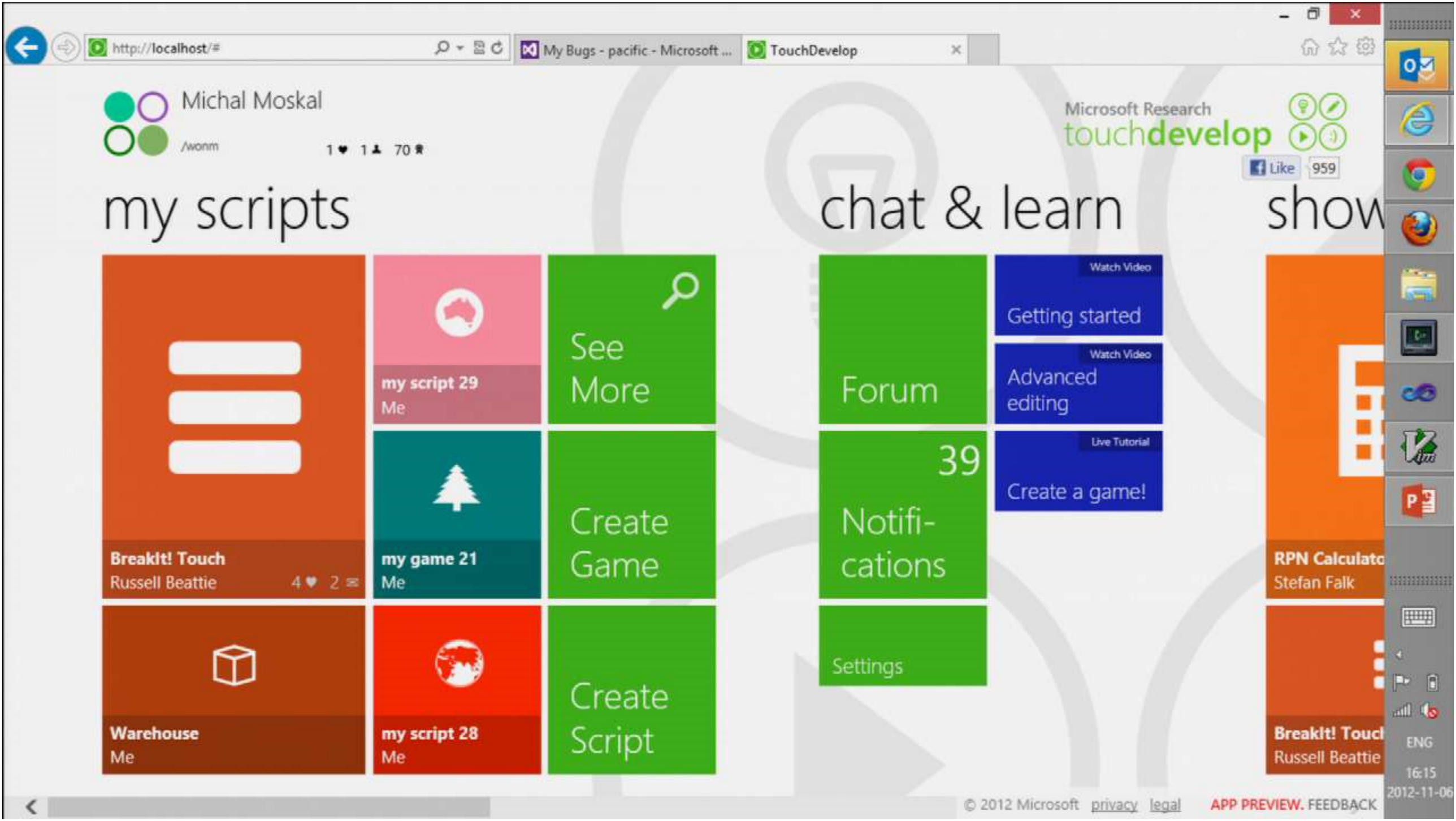
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My Bugs - pacific - Microsoft ...
TouchDevelop
Michal Moskal
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Breakit! Touch
Russell Beattie
4 2
my script 29
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See More
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Create Game
Warehouse
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Create Script
Forum
Watch Video
Getting started
Watch Video
Advanced editing
39
Notifi-cations
Live Tutorial
Create a game!
Settings
RPN Calculato
Stefan Falk
Breakit! Touch
Russell Beattie
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APP PREVIEW. FEEDBACK
ENG
16:15
2012-11-06

https://www.touchdevelop.com/app/latest#list:sh

My Bugs - pacific - Microsoft ...

BreakIt! Touch (showcase) -...

the hub

Search scripts here...

showcase

RPN Calculator
Stefan Falk
7 days ago :: /reen
4 ♥ 1

BreakIt! Touch
Russell Beattie
1 year ago :: /aoxh
4 ♥ 2

IPN.TV PLAYER
InsidePodcastNetwork
23 days ago :: /njkn

Speaking Clock French
User10267
2 months ago :: /airg
1 ♥

where am I ??
GGoeschl
1 month ago :: /kblp
1 ♥

Touch-Tris 1.0

BreakIt! Touch

Russell Beattie

1 year ago :: /aoxh

report abuse

uninstall?

85 users 300 runs

overview screens comments hearts variations tags

edit

run

add heart

It's not a real dev platform unless there's a BreakOut clone... :-)

author

basis

Russell Beattie

/eadb

APP PREVIEW. FEEDBACK

ENG

16:32

2012-11-06

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Russell Beattie

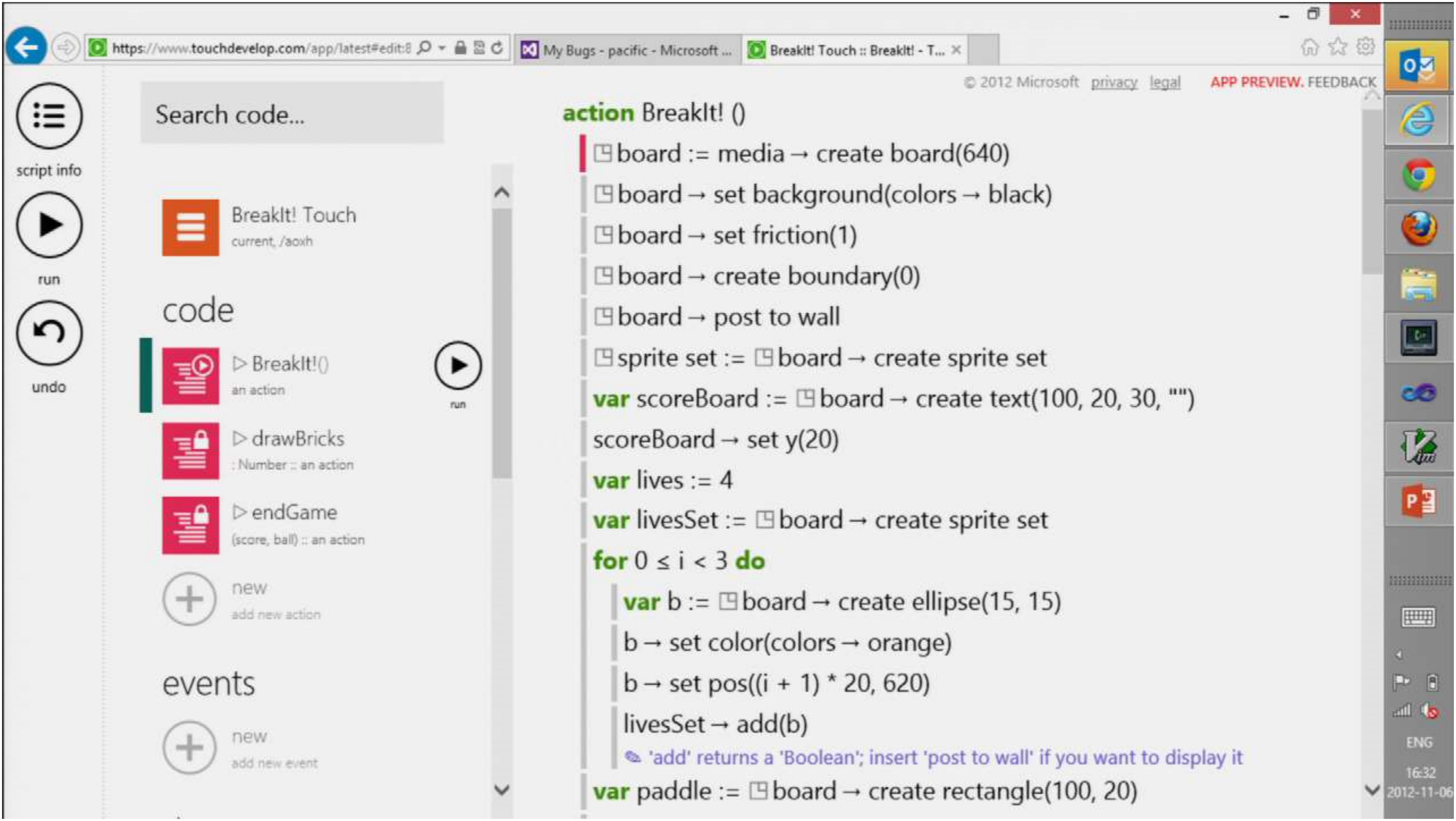
/eadb 197 ♥ 6 258

basis

BreakIt!
Russell Beattie
1 year ago :: /xkmz
6 ♥ 3

APP PREVIEW. FEEDBACK

ENG
16:32
2012-11-06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BreakIt! Touch :: BreakIt! - T...
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APP PREVIEW. FEEDBACK
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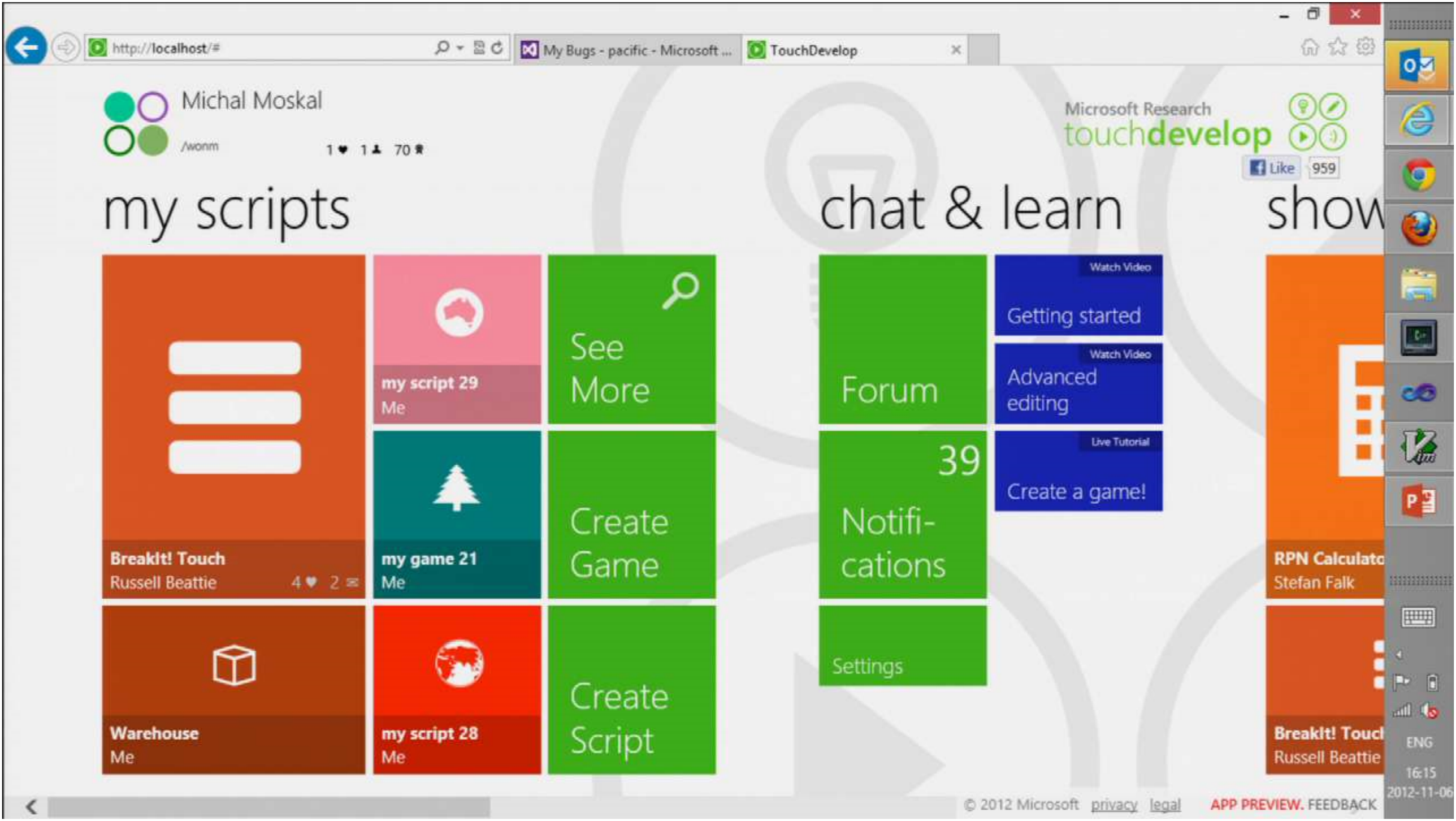
BreakIt! Touch
current, /aoxh
code
BreakIt!()
an action
drawBricks
: Number :: an action
endGame
(score, ball) :: an action
new
add new action
events
new
add new event
run
action BreakIt! ()
board := media → create board(640)
board → set background(colors → black)
board → set friction(1)
board → create boundary(0)
board → post to wall
sprite set := board → create sprite set
var scoreBoard := board → create text(100, 20, 30, "")
scoreBoard → set y(20)
var lives := 4
var livesSet := board → create sprite set
for 0 ≤ i < 3 do
var b := board → create ellipse(15, 15)
b → set color(colors → orange)
b → set pos((i + 1) * 20, 620)
livesSet → add(b)
'add' returns a 'Boolean'; insert 'post to wall' if you want to display it
var paddle := board → create rectangle(100, 20)
ENG
16:32
2012-11-06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Notifi-cations
Live Tutorial
Create a game!
Settings
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16:15
2012-11-06

TouchDevelop stats

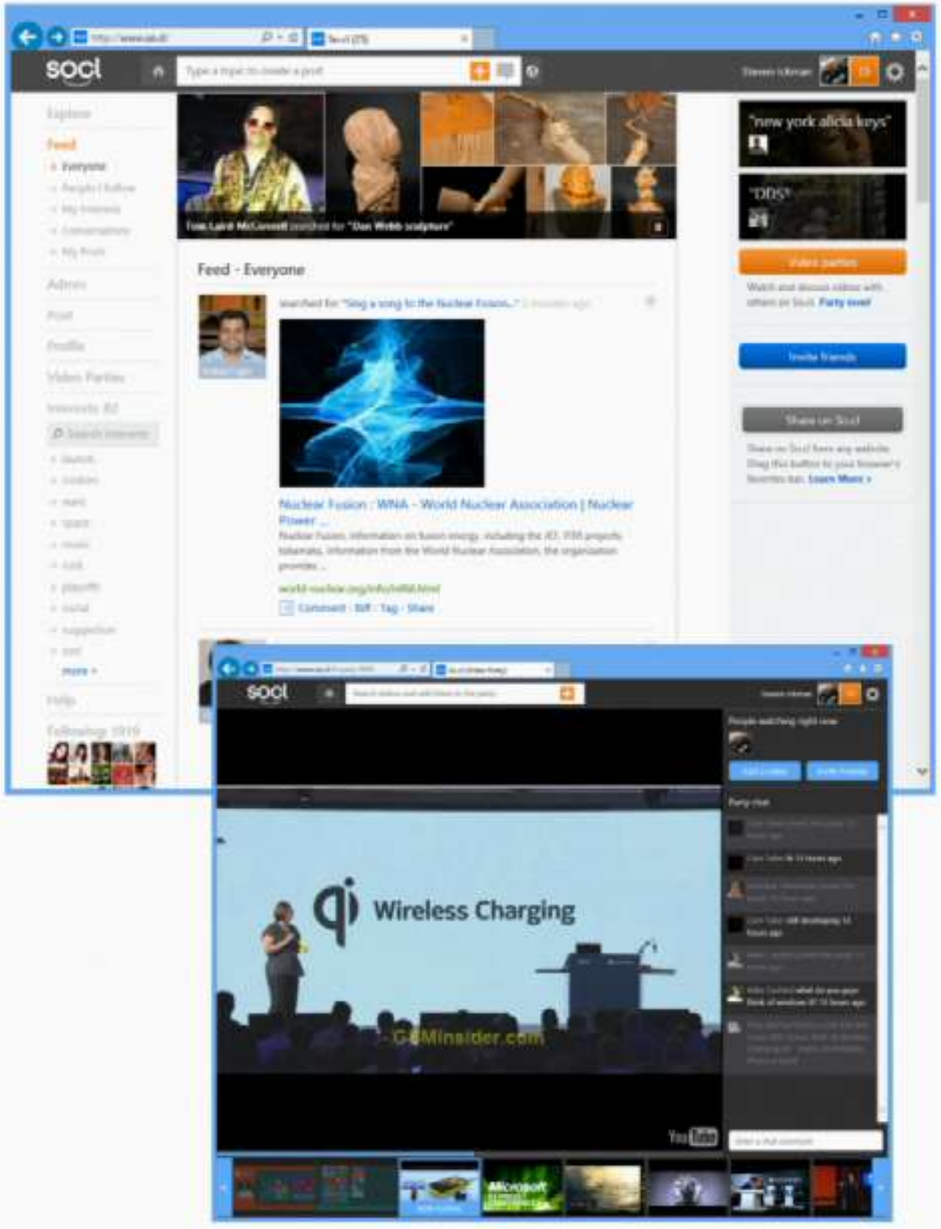
- Code sizes:
  - 47,000 lines of TypeScript
  - 3,500 lines of CSS
  - 130,000 lines of C# in the cloud
  - (150,000 lines of C# in WP7 app)
- Single monolithic TS project; getting a bit slow to compile
- Started JS version in October 2011; failed; started TS in January

SOCL

Dan Marshall, Todd Newman
FUSE Labs

Socl

- Experimental Social Network
- Launched December 2011
- 300,000 users
- Hosted on Azure
- Ajax based web app with lots of JavaScript
- TypeScript port started this spring



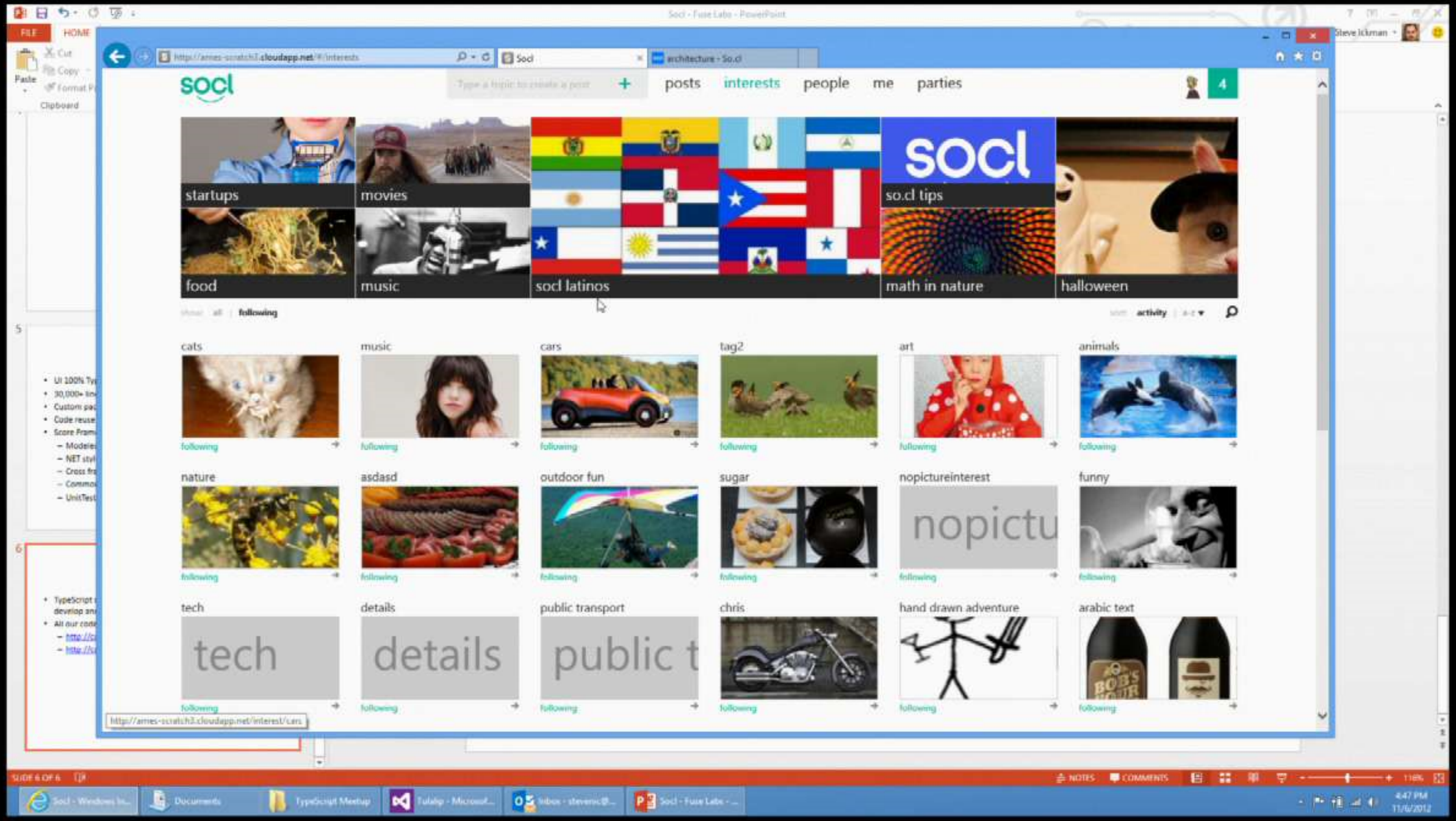
Demo

Socl Codebase

- UI 100% TypeScript
- 30,000+ lines of TypeScript; 7 developers
- Custom packager for cross-project TypeScript references
- Code reuse across FUSE projects: So.cl, Bing, and Windows 8
- Score Framework
  - Modeled loosely on .Net
  - NET style events and IDisposable
  - Cross frame remoting via lightweight COM implementation
  - Common control library for UI development
  - UnitTest framework (migrating to QUnit)

Socl and Score

- TypeScript made large JavaScript/jQuery project easier to develop and maintain
- All our code and tools are on CodeBox for Microsoft reuse
  - http://codebox/Tulalip
  - http://codebox/score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nopictureinterest
nopictu
funny
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details
public transport
public t
chris
hand drawn adventure
arabic text
BOB'S

Building JavaScript Libraries with JSLink

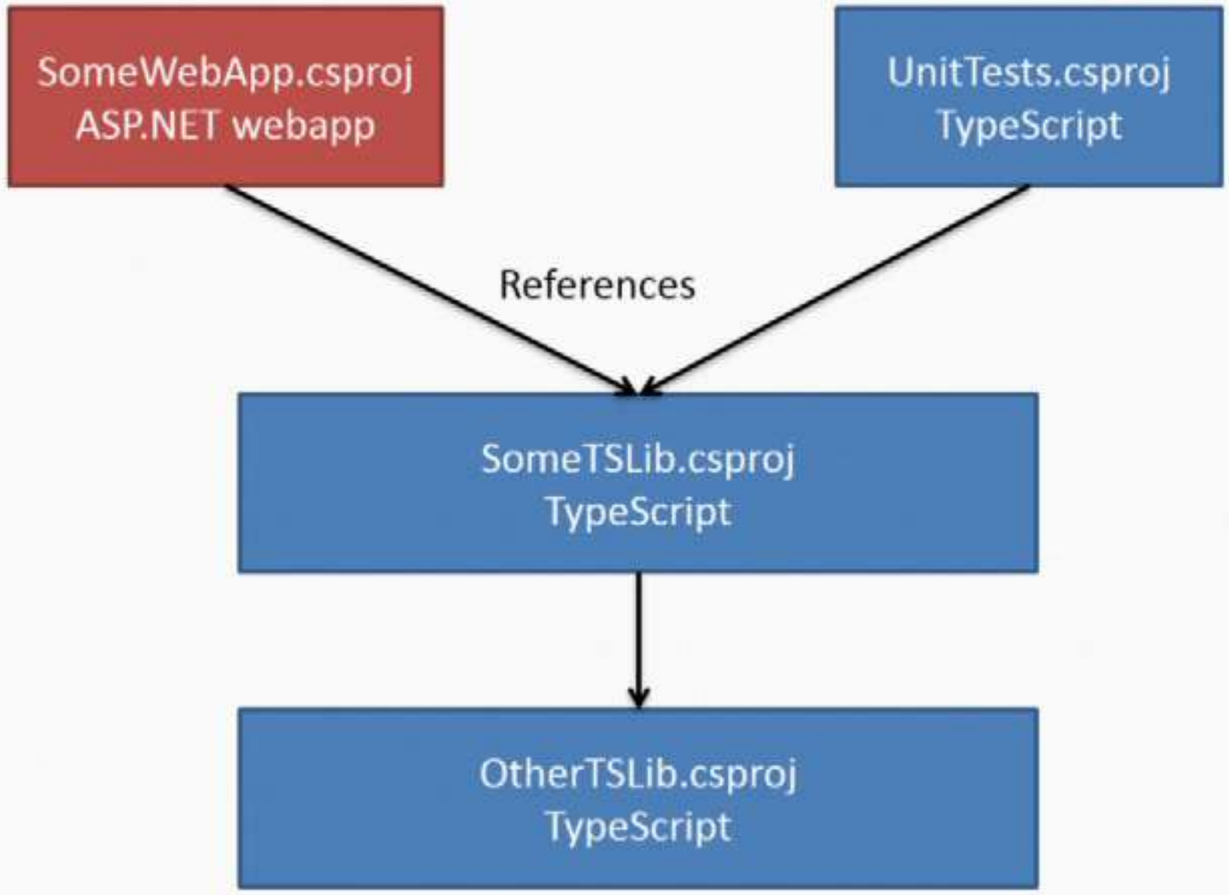
randyd@microsoft.com / 6-Nov-12

JSLink is a build and project system for TypeScript and JavaScript, built on MSBuild

Key features

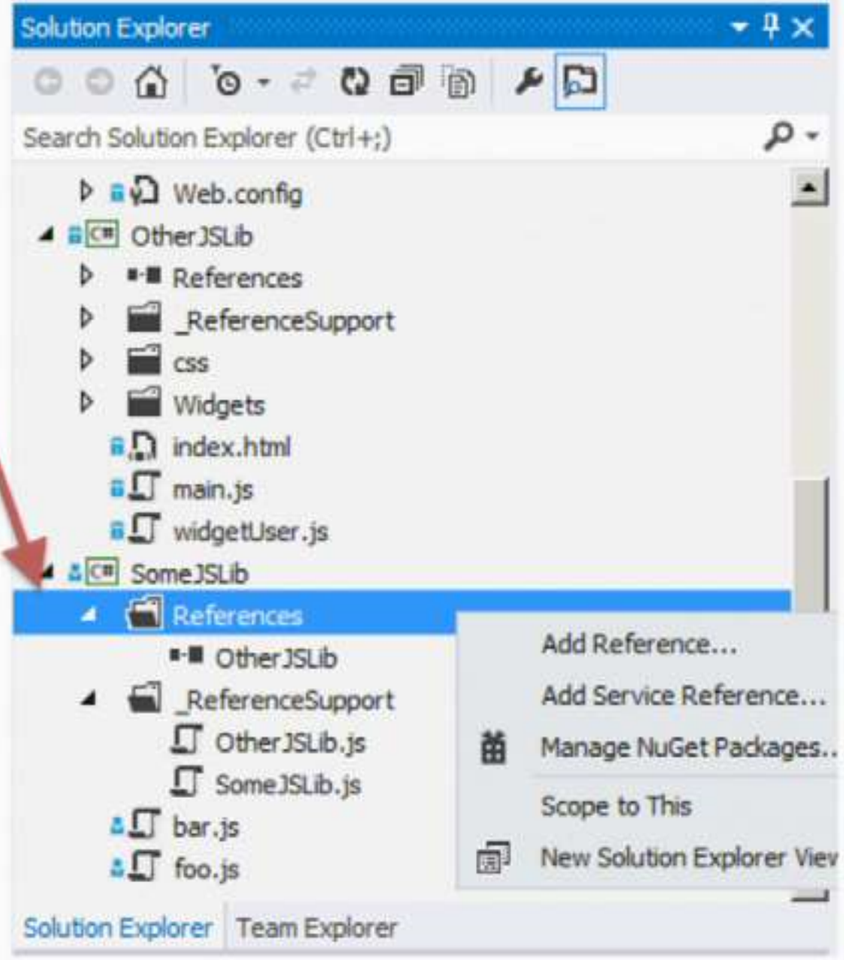
- Project-to-project references
  - Including references from managed projects
- Cross-project IntelliSense
- Bin-placed, ASP.NET, and Azure deployment support
- **JavaScript:** Combination of JS source files in dependency order

Project support: Example



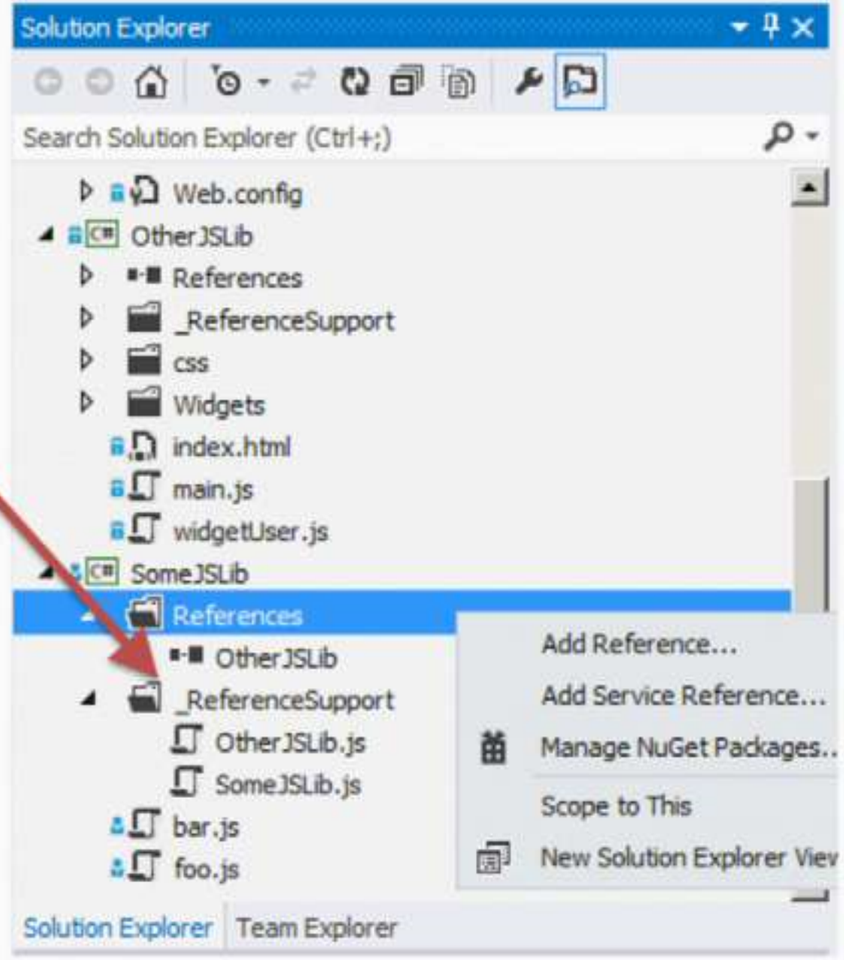
Declaring project references

- Project references are managed via the normal VS UI.
- Managed projects can reference other managed projects as well as JS / TS libraries.
- JavaScript projects can reference TypeScript projects



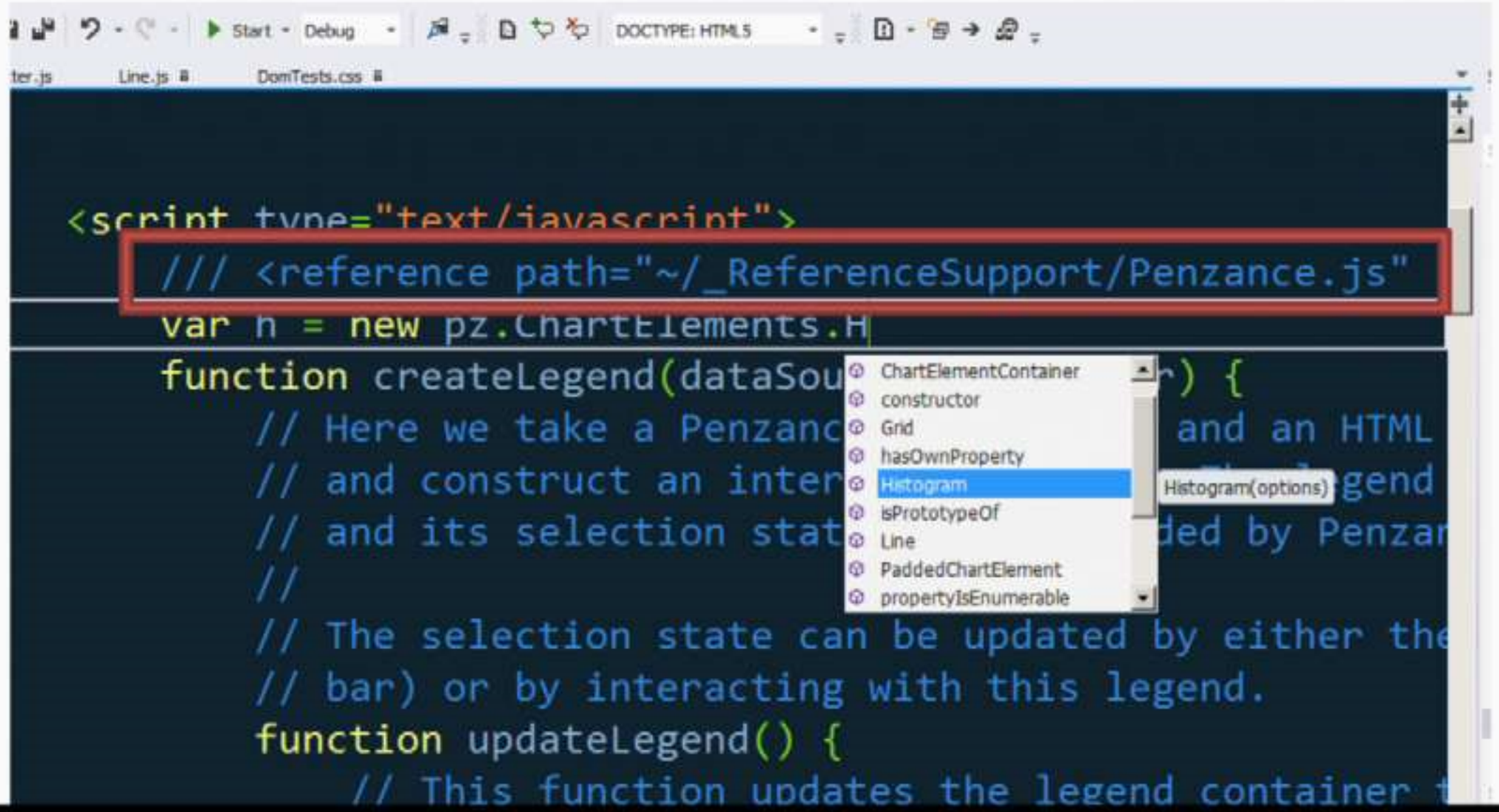
Cross-project IntelliSense

Each built dependency populates a special **_ReferenceSupport/** directory.



Cross-project IntelliSense

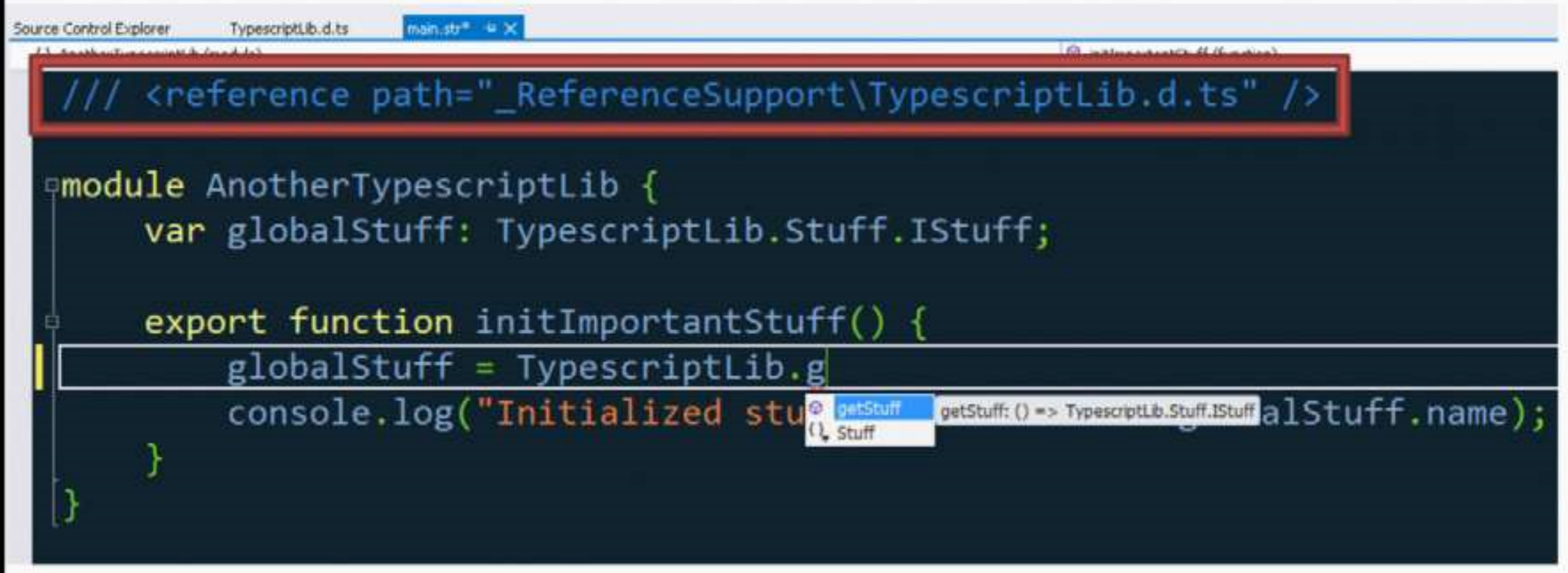
Below: IntelliSense for a library dependency from an ASP.NET view

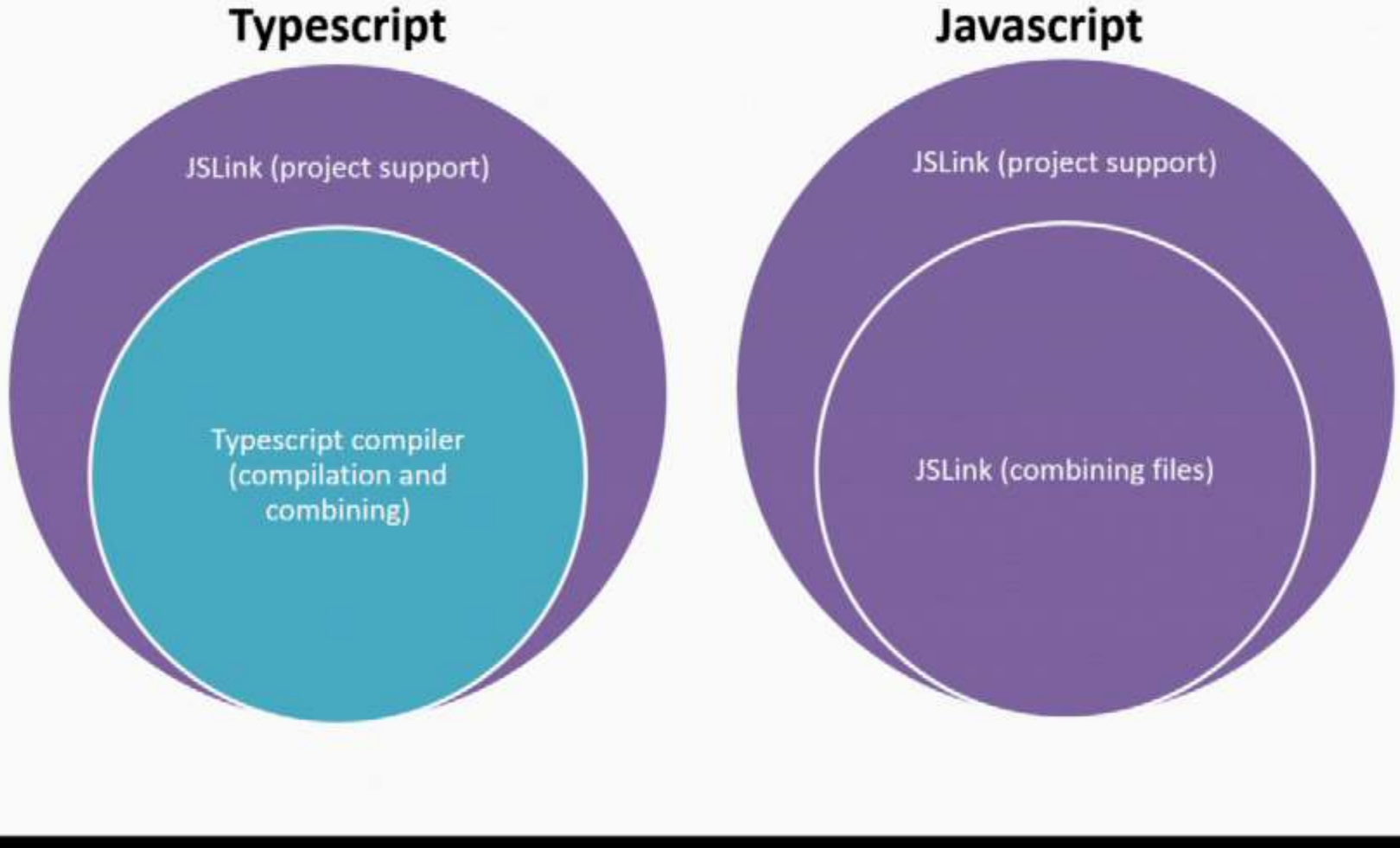


Cross-project IntelliSense

Typescript → Typescript references are supported via **generated declarations** (.d.ts)

Below: IntelliSense for one Typescript library from another




Typescript
JSLink (project support)
Typescript compiler (compilation and combining)
Javascript
JSLink (project support)
JSLink (combining files)

JavaScript: Combining files

Files are combined by inferring load-time dependencies from **<reference> tags.**

Shared effort between getting a correct build and effective IntelliSense.

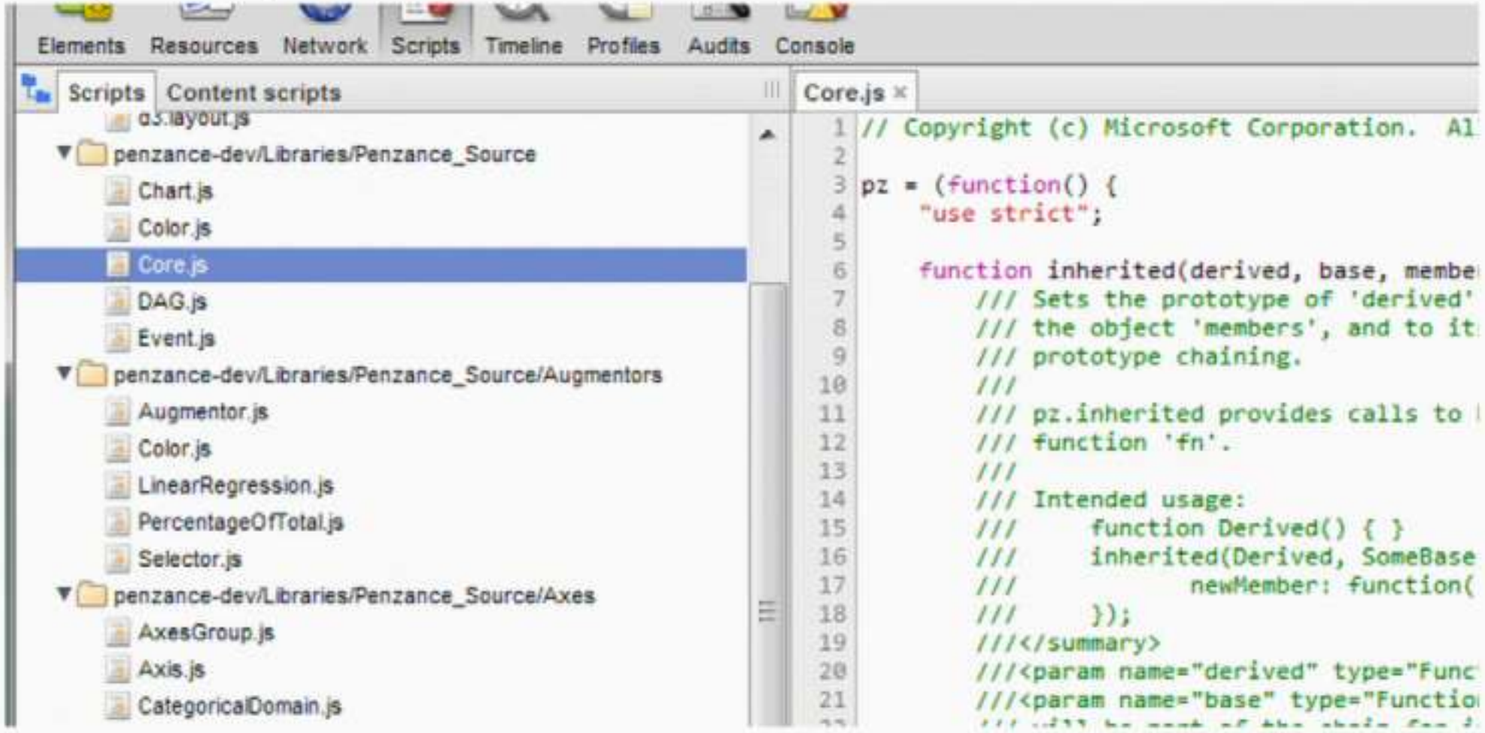
```
// Copyright (c) Microsoft Corporation.  All rights reserved.

/// <reference path="~/Core.references.js" />
/// <reference path="~/ChartElements/ChartElement.js" />
/// <reference path="~/Chart.js" />
/// <reference path="~/Axes/Axes.references.js" />

pz.plugin("ChartElements", function(pz) {
    "use strict";
```

JavaScript: Configurations

- **Release**: Single file (**SomeJSLib.js**)
- **Debug**: JavaScript source files are included as build output. A ‘debug loader’ (also named SomeJSLib.js) inserts script tags at page parse time.
- **In-place**: Like Debug, but the source tree is referenced ‘in place’. Changes do not require a rebuild!

JavaScript: Debug / In-Place Loaders

Below: Dynamically loaded source files



What's in the box

- TypeScriptLibrary.targets; JavaScriptLibrary.targets
  Include instead of the C# targets
- JavaScriptReferenceSupport.targets
  Include in managed projects to reference JS/TS libraries

```
  <ItemGroup>
    <Typescript Include="main.ts" />
    <Typescript Include="stuff.ts" />
  </ItemGroup>
  <ItemGroup>
    <ProjectReference Include="..\OtherJSLib\OtherJSLib.csproj">
      <Project>{8E3266CC-8004-4F57-8092-F3CA89A10DAD}</Project>
      <Name>OtherJSLib</Name>
    </ProjectReference>
  </ItemGroup>
  <Import Project="$(JSLinkToolPath)\TypeScriptLibrary.targets" />
</Project>
```

http://codebox/jslink

monaco

web standards based developer tools platform, services, and experiences

global team

redmond

chris dias
chris sinco
jeff fisher
sofian alsalman hnaide

edinburgh

steven clarke

zurich

alexandru dima
andre weinand
ben pasero
dirk baeumer
erich gamma
isidor nikolic
joao moreno
johannes rieken

journey

bootstrap project october m1	editor workbench november m2	self-host december m3	2011
partners portal january m4	napa tfs w/a february m5	partners platform debt march m6	2012
finish AMD april m7	partners "lisbon" may m8	partners azure ux june	
e2e app dev july	e2e app dev abilities partners august	e2e partners server september	

scenarios


partners
microsoft platforms
"vs online"
desktop companion
"F12.net"
remote debugging
time
today

partners

office 365 tools “napa”

tfs web access

azure mobile apps “zumo”

typescript playground

F12

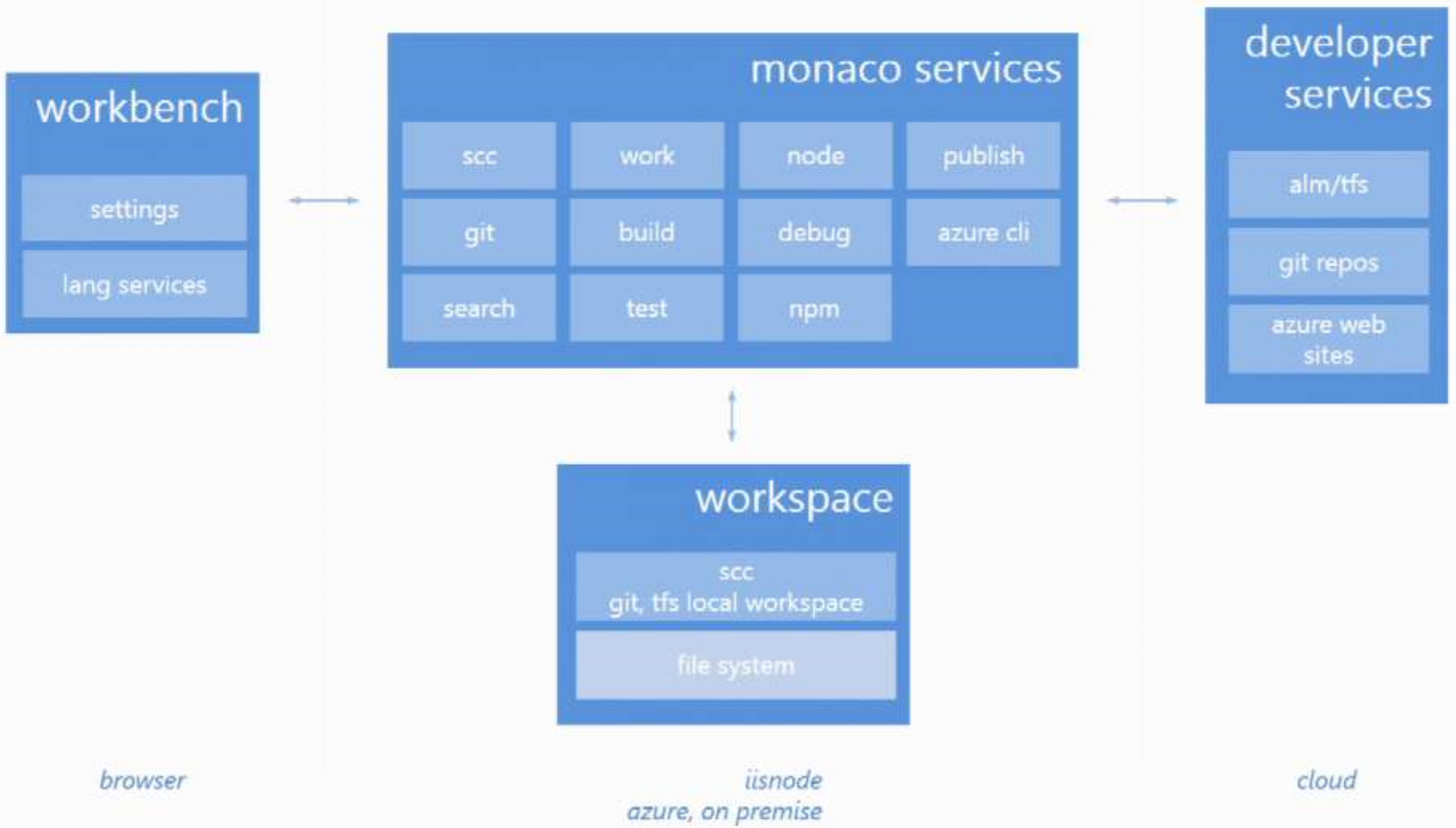
msr – rise4fun, pex, try f#, code canvas

msdn epx site management tools

twc – jscop online

sql tools – isotope.js

today


workbench
settings
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monaco services
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git
build
debug
azure cli
search
test
npm
developer services
alm/tfs
git repos
azure web sites
workspace
scc
git, tfs local workspace
file system
browser
iisnode
azure, on premise
cloud

monaco statistics

TypeScript	105317	64%
JavaScript	50560	31%
CSS	6908	5%

platform: lap around http://monacotools
partners: tfs web access, office365 “napa” tools, zumo
companion: end to end online development

DEMO